

Attorney Docket No.: 42390.P10109

Application No.: 09/996,255

Page 3

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

1. (currently amended) A circuit for detecting a reversal in polarity, comprising:
 - (a) a differential amplifier;
 - (b) a low pass filter connected in series with the amplifier; and
 - (c) a Schmidt trigger connected in series with the low pass filter.

2. (currently amended) The circuit ~~described in Claim~~ of claim 1, wherein the differential amplifier comprises an operational amplifier having a feedback loop from an output terminal thereof to an inverting input terminal thereof.

3. (currently amended) The circuit ~~described in Claim~~ of claim 1, wherein the Schmidt trigger comprises an operational amplifier having a feedback loop from an output terminal thereof to a non-inverting input terminal thereof.

4. (currently amended) A method for detecting a polarity reversal in a telephony circuit comprising:
 - a. ~~connecting~~ providing a differential input voltage across the inputs of a differential amplifier;
 - b. ~~connecting~~ providing a low pass filter connected to an output of the differential amplifier;

Attorney Docket No.: 42390.P10109

Application No.: 09/996,255

Page 4

e. ~~connecting~~ providing a Schmidt trigger connected to an output of ~~a false detection~~
the low pass filter; and

d. determining polarity stasis or reversal based upon ~~the~~ an output of the Schmidt
trigger.

5. (currently amended) The method ~~for detecting a polarity reversal as described in~~
of claim 4, wherein the step of ~~connecting~~ providing a differential input voltage across a
differential amplifier comprises ~~connecting~~ providing said voltage across an operational
amplifier having a feedback loop from an output terminal thereof to an inverting input terminal
thereof.

6. (currently amended) The method ~~for detecting a polarity reversal as described in~~
of claim 4, wherein the step of ~~connecting~~ providing a Schmidt trigger comprises ~~connecting~~
providing an operational amplifier having a feedback loop from an output terminal thereof to a
non-inverting input terminal thereof.

7-11. (canceled)

12. (currently amended) The method ~~as claimed in claim 7 of claim 4~~, further
comprising eliminating voltage polarity transitions that are shorter than a defined time.

13. (currently amended) A method for detecting a polarity reversal in a telephony

Attorney Docket No.: 42390.P10109

Application No.: 09/996,255

Page 5

circuit comprising:

- (a) comparing the relative voltage of two inputs;
- (b) filtering out ~~voltage~~ a polarity reversal that lasts shorter than a defined time; and
- (c) filtering out polarity reversals where the final relative voltage is below a defined threshold.

14-16. (canceled)

17. (original) The method of claim 13, where the defined time is such so as to filter out any polarity reversal induced by an incoming ring signal.

18. (original) The method of claim 13, where the defined threshold is such so as to filter out any polarity reversal caused by any of battery voltage drops, line disconnections, or loop current drops.

19. (canceled)

20. (currently amended) ~~Apparatus~~ An apparatus for detecting a reversal in polarity, comprising:

- (a) a comparator;
- (b) a low pass filter connected to an output of the comparator; and
- (c) a hysteresis element connected to an output of the low pass filter.

*Attorney Docket No.: 42390.P10109
Application No.: 09/996,255
Page 6*

21. (currently amended) The ~~circuit described in~~ apparatus of claim 20, wherein the hysteresis element comprises a Schmidt trigger.

22-26. (canceled)

27. (original) The apparatus of claim 20, where the low pass filter is designed to filter out any polarity reversal induced by an incoming ring signal.

28. (original) The apparatus of claim 20 where the hysteresis element is such so as to filter out any polarity reversal caused by any of battery voltage drops, line disconnections, or loop current drops.

29. (original) The apparatus of claim 27 where the hysteresis element is such so as to filter out any polarity reversal caused by any of battery voltage drops, line disconnections, or loop current drops.